

REMARKS

Claims 1-4 are pending, with claim 1 being independent. Claims 5-7 have been cancelled without prejudice. Claim 8 is added.

The specification has been amended in a number of places to clarify its language.

The Rejection of Claims 1-7 have under 35 U.S.C. §112, second paragraph.

The Examiner states that terms “said one second friction element” and “said at least one friction lining element and said at least one second friction lining element” recited in claim 1 are indefinite. Claim 1 has been amended to eliminate the basis for the Examiner’s rejection. Withdrawal of the 35 U.S.C. §112, second paragraph rejection is respectfully requested. The Examiner further objects to claim 1 for a minor informality which is also corrected.

The Rejection of Claims 1-5 under 35 U.S.C. §102(b) as unpatentable over U.S. Patent No. 5,755,314 (Kanda).

In accordance with the present application, the wet clutch arrangement 10 has a housing 12, which is rotatably fixed to a drive shaft, and a plurality of friction elements 32, 58, 34, 60 and 36. Friction elements 32, 34 and 36 are rotatably fixed to an axially extending part 18 of housing 12 and, thus rotate with the housing. See Specification, paragraph [0018]. Each of friction elements 32, 34 and 36 has a friction lining carrier 48 which comprises a plurality of circumferentially spaced carrier segments 78. Each carrier segment 78 supports two friction lining segments 80 and 82 projecting from opposite axial sides of the friction element. See FIGS. 2 and 3. As friction elements 32, 34, and 36 rotate in common with housing 12, fluid within the housing is forced radially outside due to centrifugal forces. Reaching each segment, the fluid further runs along its circumferentially directed surface 88 around the segment and hits the surface of part 18 of housing 12, which, in turn, redirects the fluid radially inwards without allowing even a portion of fluid to escape housing 12. See FIG. 1. As a consequence, the fluid circulates around the periphery of each of the carrier segments. To improve fluid circulation, an outer contour of carrier segment 78 and an outer contour of friction lining segments 80 and 82 supported on this carrier segment conform to one another. See Specification, paragraph [0023].

Independent claim 1 recites "at least one first friction element extending radially inwards from said surface and having a plurality circumferentially spaced second engaging elements, said first engaging elements rotatably engaging said second engaging elements so that said at least one first friction element and said housing rotate in common about said axis, said at least one first friction element having at least one frictionally active axial side" and "each said carrier segment and each said friction lining segment having respective outer contours conforming to one another so as to define an arrangement of fluid transport surfaces directing fluid around parts of said at least first friction element and toward said surface of said housing".

Kanda discloses a clutch casing 20. Within the casing 20, a clutch guide member 42 surrounds the clutch (see Fig. 2). Clutch disks 45 are axially slidably carried on spline teeth 42, on the inner periphery of clutch guide member 42 and four clutch disks are axially slidably carried on spline teeth 44, formed on an outer periphery of clutch center member 44 (col. 4, lines 16-21). Since neither the guide member 42 or center member 44 can be considered part of the clutch housing, Kanda fails to teach or suggest "at least one first friction element extending radially inwards from said surface and having a plurality circumferentially spaced second engaging elements, said first engaging elements rotatably engaging said second engaging elements so that said at least one first friction element and said housing rotate in common about said axis, said at least one first friction element having at least one frictionally active axial side".

Kanda further discloses that facing member 75 of a high friction coefficient are affixed to opposing sides of the clutch disks 46. However, Kanda fails to disclose that the clutch disk has a carrier with the same contour as facing member 75. Accordingly, Kanda fails to disclose "each said carrier segment and each said friction lining segment having respective outer contours conforming to one another so as to define an arrangement of fluid transport surfaces directing fluid around parts of said at least first friction element and toward said surface of said housing", as recited in independent claim 1.

For all of the above reasons, independent claim 1 is not anticipated by Kanda.

Claims 2-4 depend from amended independent claim 1 and benefit from its patentability. Accordingly, withdrawal of the 35 U.S.C. §102(b) rejection of claims 1-4 is respectfully requested.

The Rejection of Claims 1-5 under 35 U.S.C. §102(b) as unpatentable over U.S. Patent No. 3,249,189 (Schjolin).

Schjolin, like Kanda, teaches a stationary casing 10 and a flywheel 17 rotatably fixed to a crankshaft 16. The flywheel engages friction elements, which, thus, rotate relative to casing 10. Accordingly, Schjolin fails to disclose "at least one first friction element extending radially inwards from said surface and having a plurality circumferentially spaced second engaging elements, said first engaging elements rotatably engaging said second engaging elements so that said at least one first friction element and said housing rotate in common about said axis, said at least one first friction element having at least one frictionally active axial side".

Schjolin further discloses that driven clutch plate 45 comprises a disk having slots 48. Clutch facings 50 are arranged on the opposite sides of the segments 49 between the slots 48. However, these segments 49 do not have contours which correspond to the contours of the facings 50. Accordingly, Schjolin fails to disclose "each said carrier segment and each said friction lining segment having respective outer contours conforming to one another so as to define an arrangement of fluid transport surfaces directing fluid around parts of said at least first friction element and toward said surface of said housing".

Claims 2-4 depend from amended independent claim 1 and benefit from its patentability. Withdrawal of the 35 U.S.C. §102(b) rejection of claims 1-4 is respectfully requested.

New dependent claim 8

New claim 8 depends from amended independent claim 1 and benefit from its patentability. In addition, these claims recite features removing the presently claimed invention even further from the applied prior art. Claim 8 recites that the friction lining carrier is arranged on said at least one first friction element which rotates with said housing. Neither Schjolin nor Kanda disclose such an arrangement.


Conclusion

The application is now deemed to be in condition for allowance and notice to the effect is solicited.

It is believed that no fees or charges are required at this time in connection with the present application, However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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